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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 1,280.00

Complete if Known	
Application Number	09/620,521
Filing Date	July 20, 2000
First Named Inventor	Theodor ABELS et al.
Examiner Name	Dalena Tran
Art Unit	3661
Attorney Docket No.	964-001183

METHOD OF PAYMENT (*check all that apply*)

☒ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	-20** =		X		=
Independent Claims	-3** =		X		=
Multiple Dependent					=

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	**Reissue independent claims over original patent
1205	18	2205	9	**Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	950.00
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	330.00
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($) 1,280.00

SUBMITTED BY

(Complete (*if applicable*))

Name (*Print/Type*)	William H. Logsdon	Registration No. (*Attorney/Agent*)	22,132	Telephone	412-471-8815
Signature				Date	August 23, 2004

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Response Under 37 C.F.R. § 1.192
Appellant's Brief

Application No. 09/620,521
Paper Dated: August 23, 2004
Attorney Docket No. 964-001183

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application No.	:	09/620,521	Confirmation No. 2919
Applicant	:	**Theodor ABELS et al.**	
Filed	:	July 20, 2000	
Title	:	**INDUSTRIAL TRUCK WITH A STABILIZING DEVICE**	
Group Art Unit	:	3661	
Examiner	:	Dalena Tran	
Customer No.	:	28289	

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal mailed on March 19, 2004 and received by the Patent Office on March 22, 2004. The Notice of Appeal appeals the final rejection of claims 1-3, 5, and 7-15.

The headings used hereinafter and the subject matter set forth under each heading are in accordance with 37 C.F.R. § 1.192(c).

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

08/23/2004 Patricia M. Lynch
Date Signature

Patricia M. Lynch
Typed Name of Person Signing Certificate

I

REAL PARTY IN INTEREST

Linde Aktiengesellschaft is the Assignee of the entire right, title, and interest to the above-identified application and, as such, is the real party in interest in this Appeal.

II

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Appellants, the Appellants' legal representative, or the Assignee of the above-identified application which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

III

STATUS OF CLAIMS

Claims 4, 6, and 16-20 have been canceled.

Claims 1-3, 5, and 7-15 are pending and appealed.

Claims 1, 3, 5, 7, 8, 10-13, and 15 are finally rejected under 35 U.S.C. § 103 as being directed to subject matter that would have been obvious to one of ordinary skill in the art at the time the invention was made from the combined teachings of U.S. Patent No. 6,050,770 to Avitan (hereinafter "Avitan"), in view of U.S. Patent No. 4,530,057 to Ahlbom (hereinafter "Ahlbom"), in view of EP 0637734 (hereinafter "EP '734").

Claims 2, 9, and 14 are finally rejected under 35 U.S.C. § 103 as being directed to subject matter which would have been obvious to one of ordinary skill in the art at

the time the invention was made from the combined teachings of Avitan, Ahlbom, and EP '734 in view of U.S. Patent No. 4,520,443 to Yuki et al. (hereinafter "Yuki").

Claims 1-3, 5, and 7-15 are reproduced in Appendix A, which is attached hereto.

IV

STATUS OF AMENDMENTS

A final Office Action was issued on October 21, 2003 and a Response After Final Rejection was submitted in this case on January 20, 2004 arguing for the allowability of the claims but making no claim amendments. There were no claim changes made after the final Office Action dated October 21, 2003. The claims on appeal are the claims as amended by the Amendment dated November 16, 2001, which claims are finally rejected in the final Office Action of October 21, 2003.

V

SUMMARY OF THE INVENTION

The claims on appeal are directed toward an industrial truck having a plurality of wheels 1-4, a load lifting system H, and a drive system. The truck also includes a stabilizing device comprising a plurality of wheel load sensors R_1, R_2, R_3, R_4, with each load sensor R_1, R_2, R_3, R_4 connected to a respective wheel 1, 2, 3, 4 and configured to measure a wheel load of that wheel. The load sensors R_1, R_2, R_3, R_4 are connected to a monitoring device 5 configured to control or regulate the load lifting system H and/or the drive system of the truck based on the wheel load sensor data. At least two wheels of the truck have a speed-

of-rotation sensor S_U, S_G connected to the monitoring device 5. At least one wheel 1, 2 on the front axle of the truck has a wheel bearing with an integrated wheel load sensor R_1, R_2.

As discussed in the pending application at pages 1 and 2, when conventional lift trucks, such as fork lift trucks, are improperly loaded or improperly operated, the truck can tip over causing injury to an operator. This is especially true when a load is raised on the lift, which can significantly alter the center of gravity of the truck. While systems have been developed to try to assuage this problem, none provides the simplicity of construction and enhanced stability control provided by the present invention.

VI

ISSUES PRESENTED

The following issues are presented in this Appeal:

a) Are claims 1, 3, 5, 7, 8, 10-13, and 15 directed toward obvious subject matter in light of Avitan taken in view of Ahlbom and EP '734?

b) Are claims 2, 9, and 14 directed towards obvious subject matter in light of Avitan, Ahlbom, and EP '734 taken in view of Yuki?

VII

GROUPING OF CLAIMS

Claims 1-3, 5, and 7-15 do not stand or fall together but can be grouped according to the following:

a) Claims 1, 3, 5, 8, 10, 12, 13, and 15 stand or fall together;

b) Claim 7 stands or falls independently;

c) Claim 11 stands or falls independently; and

d) Claims 2, 9, and 14 stand or fall together.

The support for the independent consideration of each grouping of claims is addressed in the arguments set forth in the Argument section of this Appeal Brief and also for the following reasons:

Dependent claim 7 depends from claim 1 but contains different limitations which are independently patentable over the cited art for the specific reasons discussed below. Dependent claim 11 depends from claim 1 but contains limitations different from those in claim 1 that render the claim patentable independently of claim 1. Claim 2 depends from claim 1 and claim 14 depends from claim 2. Claim 2 contains additional limitations that render claim 2 patentable independently of claim 1. Also, claims 2, 9, and 14 stand rejected for a different combination of art than claim 1.

VIII

ARGUMENT

Each issue presented for review is addressed hereinafter under the appropriate heading:

1. 35 U.S.C. § 112, first paragraph

None.

2. 35 U.S.C. § 112, second paragraph

None.

3. 35 U.S.C. § 102

None.

4. 35 U.S.C. § 103

a) Claims 1, 3, 5, 8, 10, 12, 13, and 15

Claims 1, 3, 5, 8, 10, 12, 13, and 15 stand rejected under 35 U.S.C. § 103(a) for obviousness over the teachings of Avitan in view of the teachings of Ahlbom and EP '734.

Avitan discloses a stabilization system having a rear steer wheel 34 with an annular weight load transducer 86 that generates a signal indicative of the axial weight load on the rear wheel. Avitan broadly discloses weight sensors in connection with one or more vehicle wheels to sense an approaching condition in which the wheel is about to be lifted from a roadway. While Avitan does not expressly disclose the use of integrated wheel load sensors, the Examiner relies upon EP '734 for this teaching. Additionally, Avitan does not teach or suggest an industrial truck in which at least two wheels of the truck have a speed-of-rotation sensor connected to the monitoring device. However, the Examiner relies upon Ahlbom (citing column 6, lines 46-58) for teaching the claimed speed-of-rotation sensors. Appellants respectfully disagree.

While EP '734 does disclose integrated wheel load sensors, there is no teaching or suggestion in the cited art to incorporate these integrated wheel load sensors in combination with speed-of-rotation sensors into an industrial truck, as claimed in claim 1.

Additionally, Appellants respectfully disagree with the Examiner's characterizations of the teachings of Ahlbom. Ahlbom does not teach or suggest speed-of-rotation sensors. As is clear from the reference, Ahlbom is directed to a device for steering a wheeled vehicle along an intended path. The deviation of a linear marking from an index point in a linear detector 1 is used to measure the lateral deviation of the vehicle from a path

L. The index point I of the linear detector 1 defines a curve T. The distance between the intended path L and the curve T is shown by the different Δx values in Fig. 1. From these Δx values, the attitude of the vehicle from the intended path L can be determined (Ahlbom at column 1, line 48 to column 3, line 40).

In paragraph 6 of the final Office Action dated October 21, 2003, the Examiner states that "...in review Ahlbom reference, column 6, lines 51-52, 'sensors 32 are placed at the unsteered wheels, to sense the rotation of the respective wheels', therefore, Ahlbom reference does disclose speed of rotation sensor." Appellants respectfully disagree. The entire passage of Ahlbom states "[s]ensors 32 are placed at the unsteered wheels, to sense the rotation of the respective wheels. The sensors are magnetic and sense the passage of teeth on toothed rims on the wheels, whereby the distance travelled can be determined." (emphasis added) Therefore, it is clear in Ahlbom that the sensors 32 are to determine the distance traveled used to calculate the Δx values for the Ahlbom system.

The Examiner further supports his position in the remarks for paragraph 5 of the Advisory Action dated March 5, 2004 stating "...it is obvious that the sensor 32 can be used for determined the speed of rotation of the wheel since the distance travel and time are exist (see column 8, lines 3-9)." Appellants appreciate that speed is defined as distance divided by time. While Ahlbom does disclose sensing the distance traveled to determine a deviation from an intended path, there is no indication in Ahlbom that the sensors 32 identified by the Examiner do anything more than measure the distance traveled by the wheels. Thus, the sensors 32 are not speed-of-rotation sensors as claimed in claim 1 but are clearly disclosed in Ahlbom as distance sensors to determine deviation from an intended path.

Ahlbom does not teach an additional sensor to take the distance measured by the sensor 32 and use this measurement to calculate a speed of rotation for a particular wheel.

Appellants believe that the Examiner is selecting bits and pieces from the various cited references using Appellants' application as a template to take the selected pieces and recombine them in a manner not taught by the references themselves. Appellants do not contend that they are the first to invent wheel load sensors or speed-of-rotation sensors. However, it is the claimed combination of these components which Appellants have developed and which provides Appellants' invention with the advantages over the prior art discussed in the pending specification. While the cited references may disclose one or more of the specific components of Appellants' invention, there is no teaching or suggestion in the cited references to combine these components as the Appellants have done to arrive at the claimed invention. None of the cited references, either alone or in combination, fairly teaches or suggests the claimed invention of an industrial truck having the combination of at least one wheel on the front axle of the truck having an integrated wheel load sensor in combination with at least two wheels of the truck having speed-of-rotation sensors, with both the load sensor and speed-of-rotation sensors connected to a monitoring device. The use of two speed-of-rotation sensors allows the steering radius of the truck to be determined from the different speeds of rotation of the wheels. The speed of travel of the truck and the steering angle could also be determined. Therefore, claim 1 is believed to be patentable over the cited prior art and in condition for allowance.

Claims 3, 5, 8, 10, 12, 13, and 15 depend either directly or indirectly from, and add further limitations to, claim 1. Since these claims depend from a claim believed to be in condition for allowance, these claims are also believed to be in condition for allowance.

b) Claim 7

Claim 7 depends from claim 1 but should be considered independently of claim 1 on the grounds that claim 7 requires that each speed-of-rotation sensor is integrated into a wheel bearing.

None of Avitan, Ahlbom, or EP '734 teaches or suggests this limitation.

c) Claim 11

Claim 11 depends from claim 1 but should be considered independently of claim 1 on the grounds that claim 11 requires that the speed-of-rotation sensors are located on the two wheels of the same axle.

Placing the speed-of-rotation sensors on opposed wheels of the same axle provides additional advantages. For example, this configuration permits determination not only of the speed of travel of the industrial truck but also the steering radius and the steering angle of the wheels.

None of Avitan, Ahlbom, or EP '734 teaches or suggests this limitation.

d) Claims 2, 9, and 14

Claims 2, 9, and 14 stand rejected over Avitan, Ahlbom, and EP '734 as described above in further view of U.S. Patent No. 4,520,443 to Yuki et al. Although claims 2, 9, and 14 depend directly or indirectly from claim 1, these claims should be considered independently of claim 1 on the grounds that they are rejected over a different set of references than claim 1.

Claim 2 includes the limitation that the monitoring device is connected with actuator units for inclination of a lifting mast, adjustment of a load height, adjustment of

vehicle speed, adjustment of vehicle acceleration, adjustment of braking intensity, or adjustment of steering angle.

Claim 9 teaches that the monitoring device is connected to a display unit for displaying a load, a load moment, truck speed, acceleration, turning radius, or tipping forces.

Claim 14 teaches that the monitoring device includes an evaluation unit to determine transverse tipping forces, longitudinal tipping forces, tipping movements, or load weights.

Avitan, Ahlbom, and EP '734 have been discussed above. Yuki discloses a control device for an unloading mechanism for a truck. The Yuki device includes a load sensor 106 to detect the weight of a load carried by the truck in order to correct for horizontal positioning of the fork in accordance with the amount of bending of the upright and/or the fork due to the weight of the load (Yuki at column 7, lines 60-66). However, Yuki does not teach or suggest the combination of limitations of claims 2, 9, and 14 either alone or in combination with Avitan, Ahlbom, or EP '734.

IX

CONCLUSION

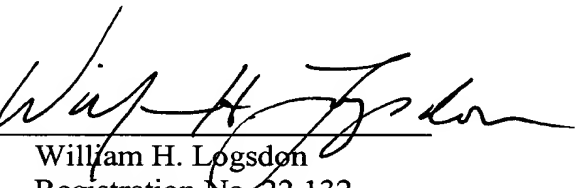
The claims define a unique industrial truck. The Examiner has not addressed all of the limitations of the independent claims or the corresponding dependent claims. In order to establish a *prima facie* case, the Examiner must show that each limitation is met or made obvious by the applied prior art and the Examiner has failed to do so. The preponderance of evidence clearly establishes the allowability of claims 1-3, 5, and 7-15.

Reversal of all of the Examiner's rejections and allowance of these claims are respectfully requested.

A check in the amount of $330.00 accompanies this Appeal Brief. The Commissioner of Patents and Trademarks is hereby authorized to charge any additional fees which may be required to Deposit Account No. 23-0650. Please refund any overpayments to Deposit Account No. 23-0650. An original and two copies of this Appeal Brief are enclosed.

Respectfully submitted,

WEBB ZIESENHEIM LOGSDON
ORKIN & HANSON, P.C.

By 

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